SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2B1/2B2 (b/e4): sc-53243

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cytochrome P450 (CYP2) superfamily is one of three enzyme systems which metabolize the fatty acid arachadonic acid (AA) to vascular tone regulators. CYP2 are monooxygenase enzymes that require several cofactors such as nicotinamide adenine dinucleotide phosphate (NADPH) and P450 reductase. Epoxygenases are members of the CYP2 family that metabolize AA to epoxyeicosatrienoic acid, and omega-hydroxylases are members of the CYP2 family that produce 19- and 20-hydroxyeicosatetraenoic acids. The CYP2 family members are part of the microsomal drug metabolising system responsible for oxidation of many therapeutic agents as well as steroids, fatty acids and many other endogenous substances. CYP2B1 and CYP2B2 are members of the CYP2 family that comprise the major phenobarbital-inducible hepatic cytochromes P450s. CYP2B1 converts ifosfamide to its active cytotoxic compounds, while CYP2B2 mediates phenobarbital inducibility.

REFERENCES

1. Liu, S., et al. 2001. Functional analysis of the phenobarbital-responsive unit in rat CYP2B2. Biochem. Pharmacol. 62: 21-28.
2. Paquet, Y., et al. 2001. Mutational analysis of the CYP2B2 phenobarbital response unit and inhibitory effect of the constitutive androstane receptor on phenobarbital responsiveness. J. Biol. Chem. 275: 38427-38436.
3. Beaudet, M.J., et al. 2005. The CYP2B2 phenobarbital response unit contains binding sites for hepatocyte nuclear factor 4, PBX-PREP1, the thyroid hormone receptor β and the liver X receptor. Biochem. J. 388: 407-418.
4. Samel, S., et al. 2005. Peritoneal cancer treatment with CYP2B1 transfected, microencapsulated cells and ifosfamide. Cancer Gene Ther. 13: 65-73.
5. Chang, T.K., et al. 2006. Distinct role of bilobalide and ginkgolide A in the modulation of rat CYP2B1 and CYP3A23 gene expression by *Ginkgo biloba* extract in cultured hepatocytes. Drug Metab. Dispos. 34: 234-242.
6. Hirasawa, F., et al. 2006. Styrene monomer primarily induces CYP2B1 mRNA in rat liver. Xenobiotica 35: 1089-1099.
7. Qin, G. and Meng, Z. 2006. Effect of sulfur dioxide inhalation on CYP2B1/2 and CYP2E1 in rat liver and lung. Inhal. Toxicol. 18: 581-588.
8. Walubo, A., et al. 2006. RAT CYP3A and CYP2B1/2 were not associated with nevirapine-induced hepatotoxicity. Methods Find. Exp. Clin. Pharmacol. 28: 423-431.
9. Zhang, Q., et al. 2006. Analysis of multiple nuclear receptor binding sites for CAR/RXR in the phenobarbital responsive unit of CYP2B2. Arch. Biochem. Biophys. 451: 119-127.

SOURCE

CYP2B1/2B2 (b/e4) is a mouse monoclonal antibody raised against liver cytochromes P450 2B1 and 2B2 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CYP2B1/2B2 (b/e4) is recommended for detection of CYP2B1 and CYP2B2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of CYP2B1/2B2: 50 kDa.

Positive Controls: rat liver extract: sc-2395.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

SELECT PRODUCT CITATIONS

1. Kobayashi, M., et al. 2014. Ascorbic acid deficiency decreases hepatic cytochrome P-450, especially CYP2B1/2B2, and simultaneously induces heme oxygenase-1 gene expression in scurvy-prone ODS rats. Biosci. Biotechnol. Biochem. 78: 1060-1066.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.